

Research Findings: Delivery and Financing Systems for Health Care and Public Health Services

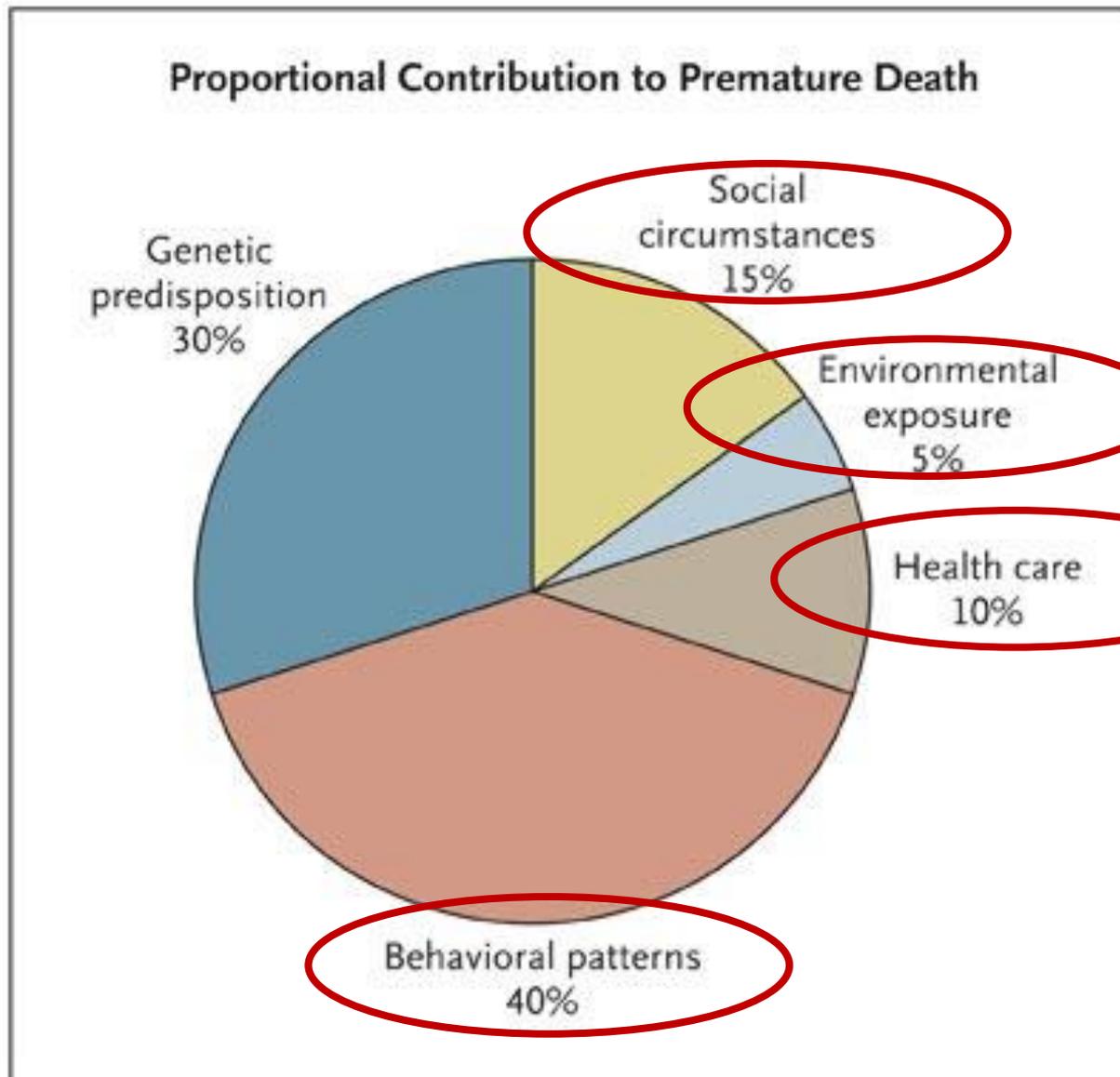
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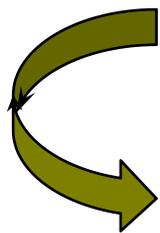
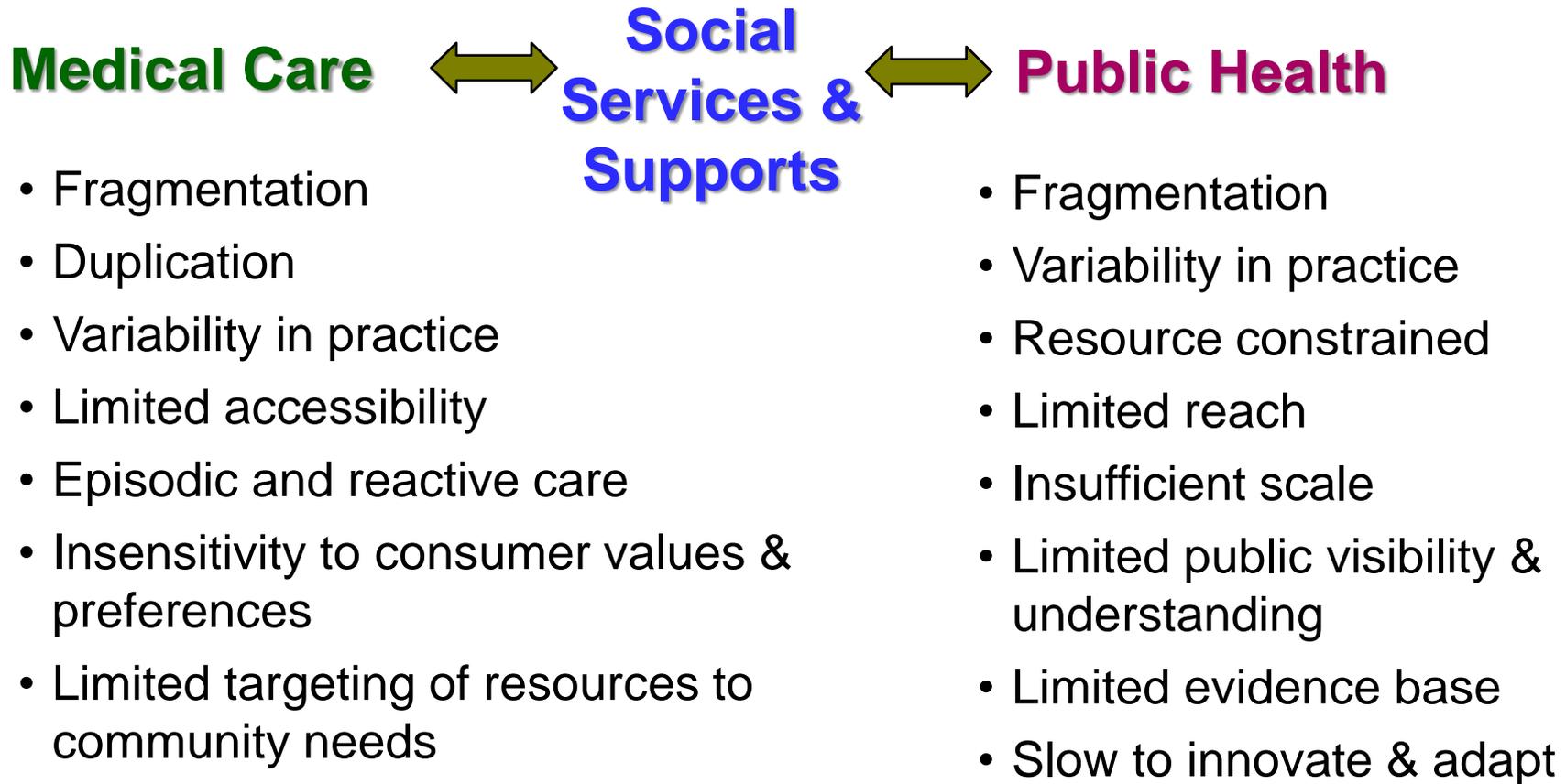


Systems for Action
National Coordinating Center
Systems and Services Research to Build a Culture of Health

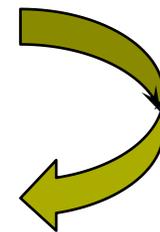
Multiple systems & sectors drive health...



...But existing systems often fail to connect



Waste & inefficiency
Inequitable outcomes
Limited population health impact



How do we support effective population health improvement strategies?

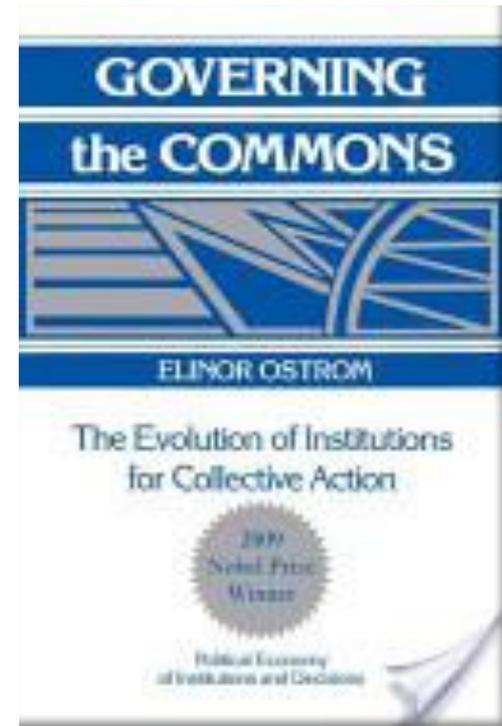
- Designed to achieve **large-scale** health improvement: neighborhood, city/county, region
- Target **fundamental** and often **multiple** determinants of health
- Mobilize the **collective actions** of multiple stakeholders in government & private sector
 - Infrastructure
 - Information
 - Incentives

Mays GP. Governmental public health and the economics of adaptation to population health strategies. *National Academy of Medicine Discussion Paper*. 2014.

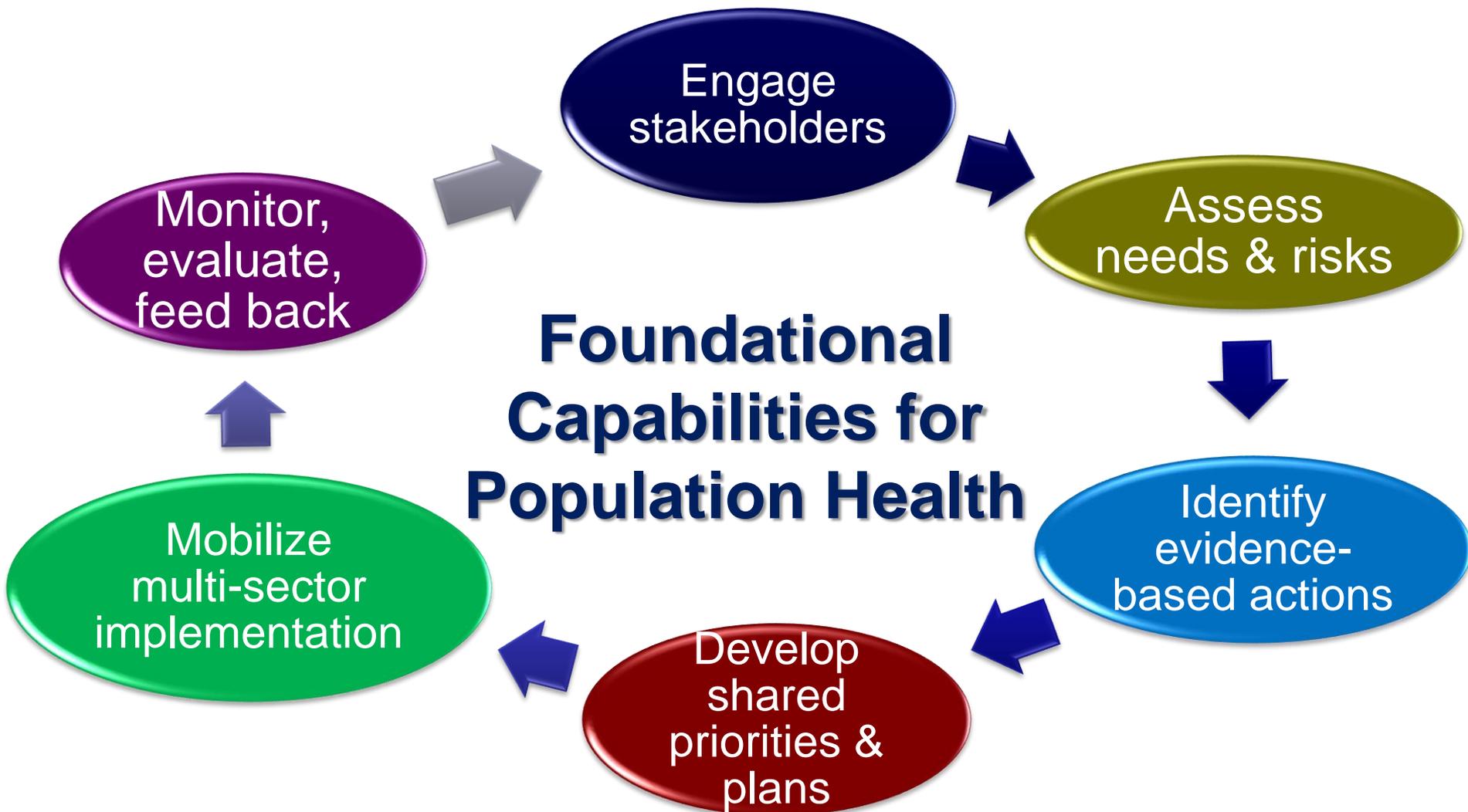
<http://nam.edu/wp-content/uploads/2015/06/EconomicsOfAdaptation.pdf>

Challenge: overcoming collective action problems across systems & sectors

- Incentive compatibility → public goods
- Concentrated costs & diffuse benefits
- Time lags: costs vs. improvements
- Uncertainties about what works
- Asymmetry in information
- Difficulties measuring progress
- Weak and variable institutions & infrastructure
- Imbalance: resources vs. needs
- Stability & sustainability of funding



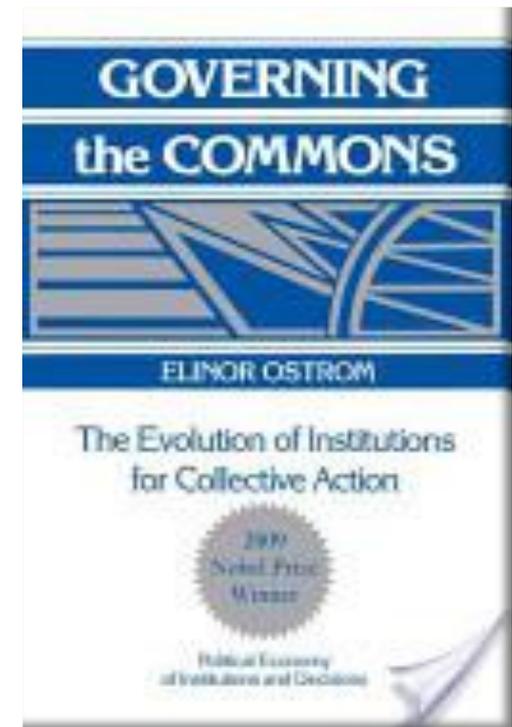
Catalytic functions to support multi-sector actions in health



What **services and supports** are needed to support collective actions in health?

Chief health strategist for communities & populations:

- Engage broad networks of community stakeholders
- Identify population health needs & priorities
- Plan with clear roles & responsibilities
- Recruit & leverage resources
- Develop and enforce policies
- Ensure coordination across sectors
- Promote equity and target disparities
- Support evidence-based practices
- Monitor and feed back results
- Ensure transparency & accountability: resources, results, ROI



Comprehensive Public Health Systems

One of RWJF's Culture of Health National Metrics

- Implement a ***broad scope*** of population health activities
- Through ***dense networks*** of multi-sector relationships
- Including ***central actors*** to coordinate actions

Access to public health

Overall, 47.2 percent of the population is covered by a comprehensive public health system. Individuals are more likely to have access if they are non-White (51.5 percent vs. 45.5 percent White) or live in a metropolitan area (48.7 percent vs. 34.1 percent in nonmetropolitan areas).

47.2%

of population served by a
comprehensive public
health system

What do we know about multi-sector work in population health?

National Longitudinal Survey of Public Health Systems

- Cohort of 360 communities with at least 100,000 residents
- Followed over time: 1998, 2006, 2012, 2014**, 2016
- Local public health officials report:
 - **Scope**: availability of 20 recommended population health activities
 - **Network**: organizations contributing to each activity
 - **Centrality of effort**: contributed by governmental public health agency
 - **Quality**: perceived effectiveness of each activity

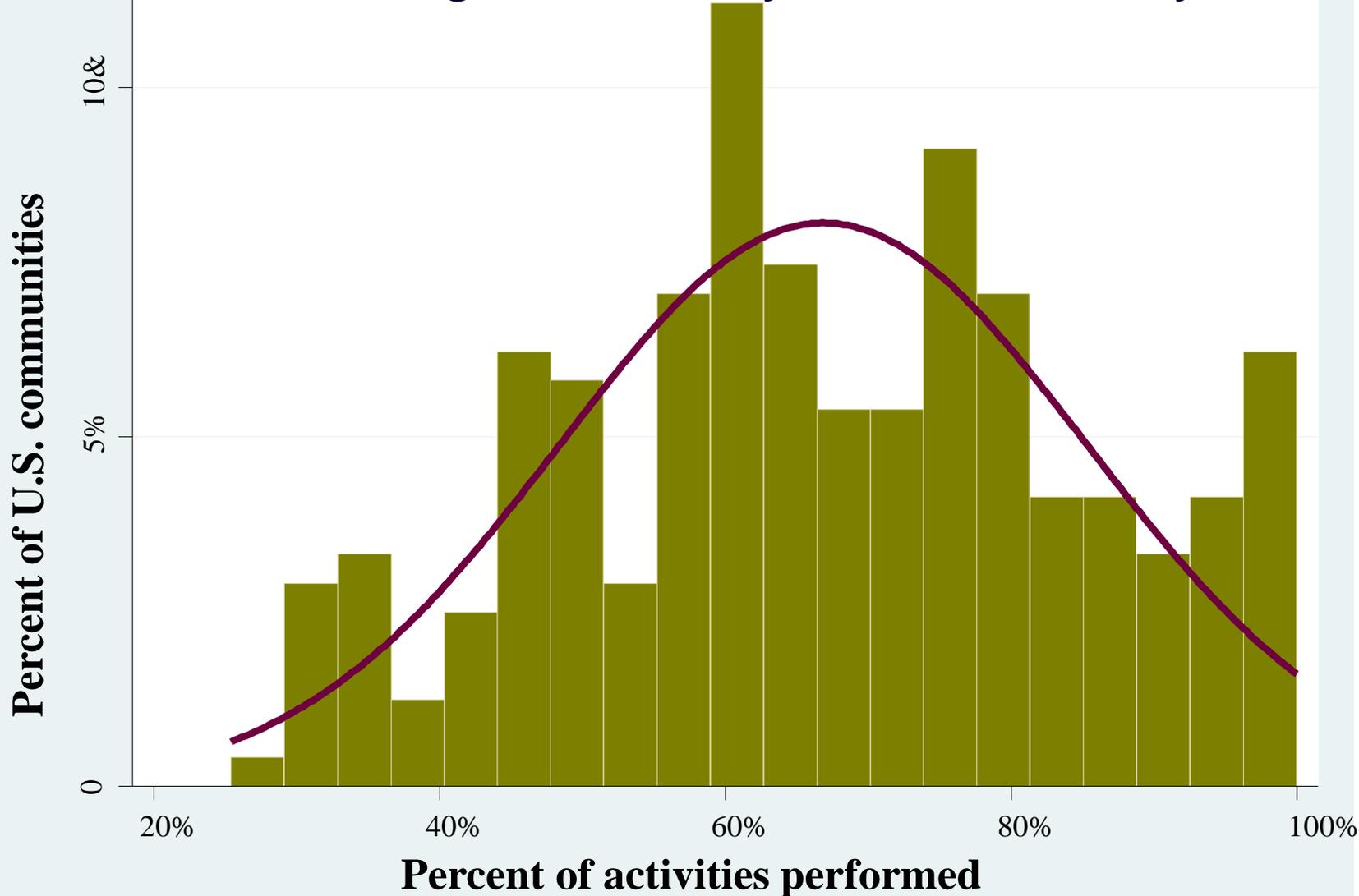
** Expanded sample of 500 communities < 100,000 added in 2014 wave

Measures of population health infrastructure & capabilities

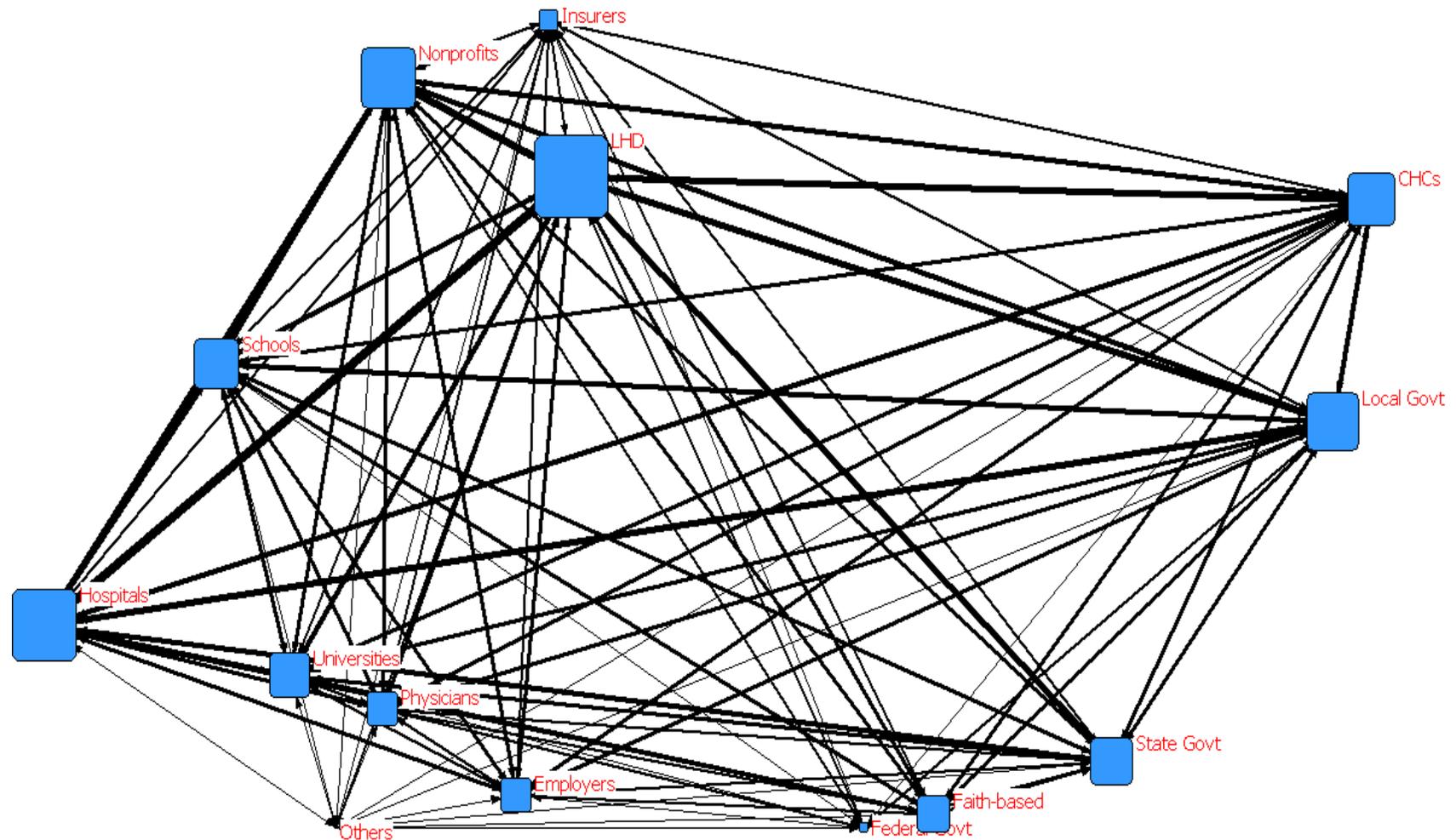


Variation in implementing foundational population health activities

National Longitudinal Survey of Public Health Systems



Mapping who contributes to population health

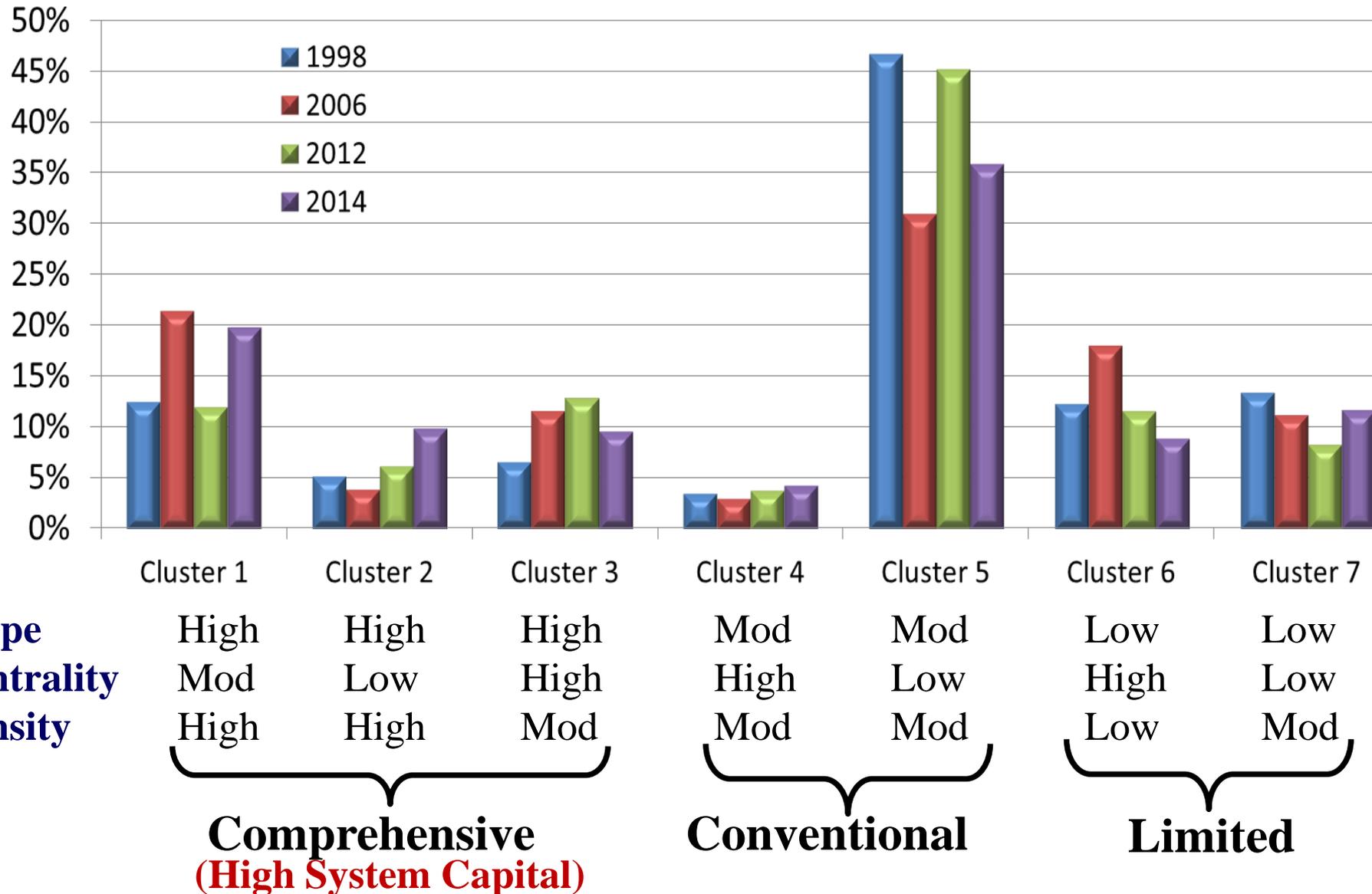


Node size = degree centrality

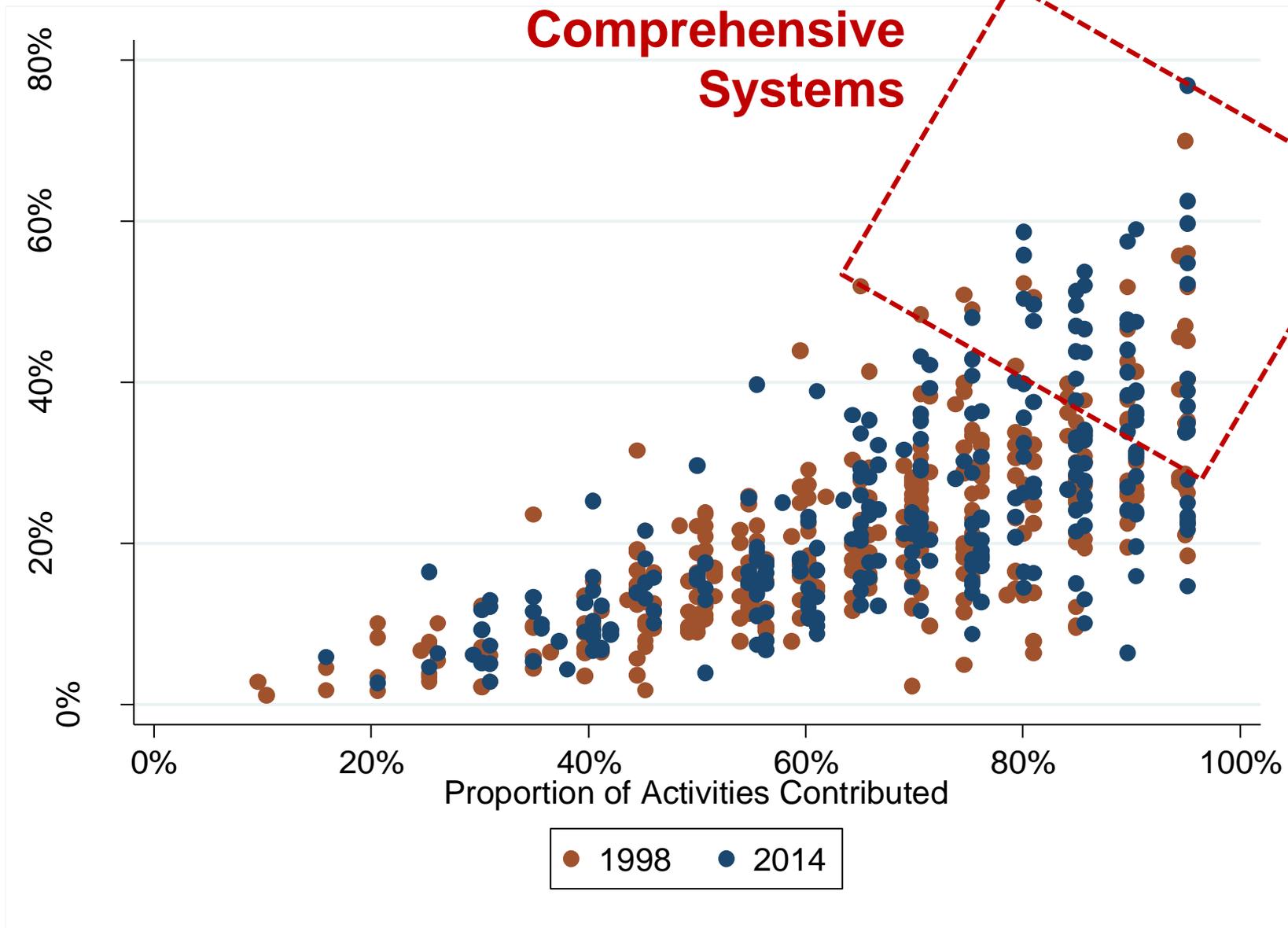
Line size = % activities jointly contributed (tie strength)

Mays GP et al. Understanding the organization of public health delivery systems: an empirical typology. *Milbank Q.* 2010;88(1):81–111.

Classifying multi-sector delivery systems for population health 1998-2014



Network density and scope of activities



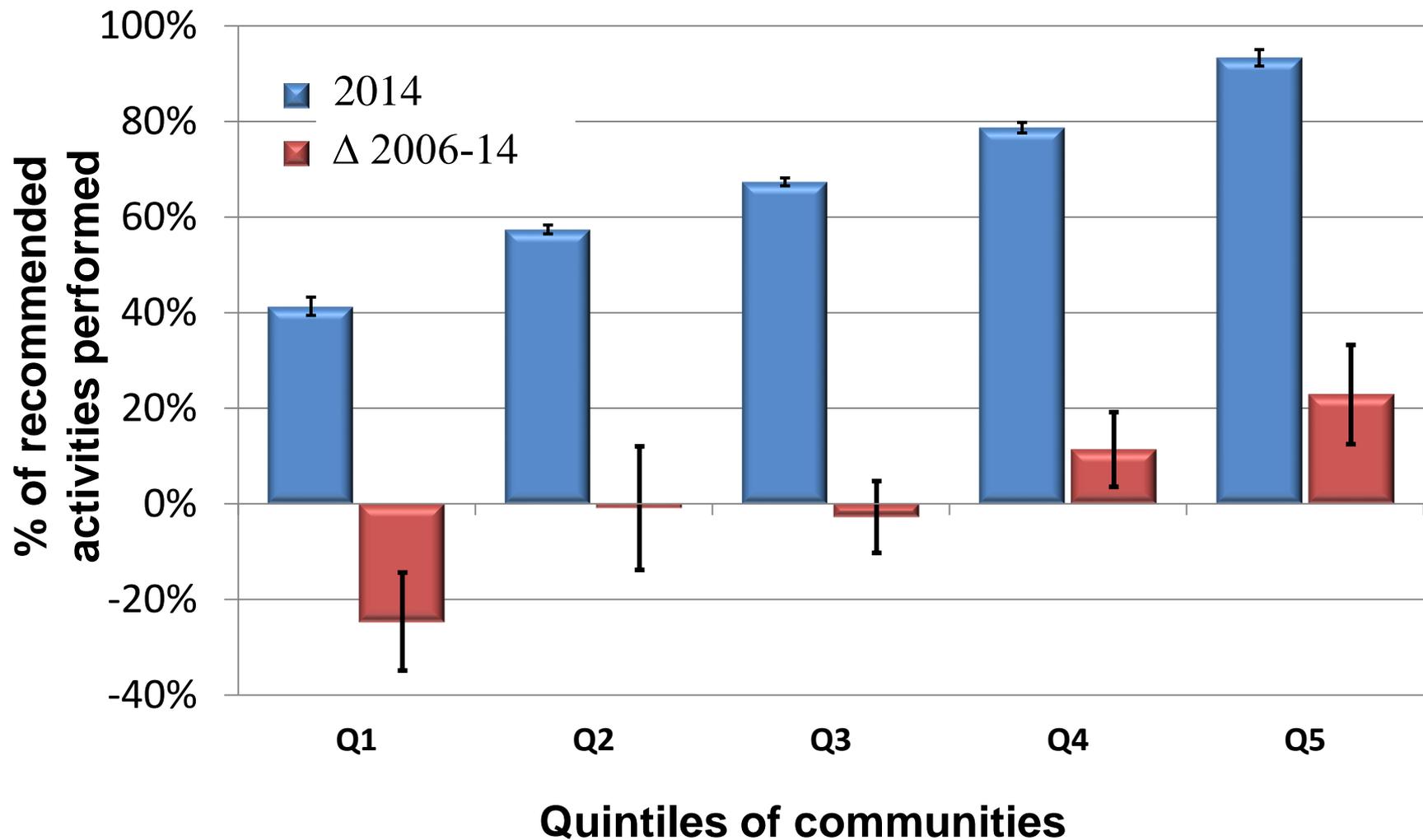
Changes in system prevalence and coverage

System Capital Measures	1998	2006	2012	2014	2014 (<100k)
Comprehensive systems					
% of communities	24.2%	36.9%	31.1%	32.7%	25.7%
% of population	25.0%	50.8%	47.7%	47.2%	36.6%
Conventional systems					
% of communities	50.1%	33.9%	49.0%	40.1%	57.6%
% of population	46.9%	25.8%	36.3%	32.5%	47.3%
Limited systems					
% of communities	25.6%	29.2%	19.9%	20.6%	16.7%
% of population	28.1%	23.4%	16.0%	19.6%	16.1%

Mays GP, Hogg RA. Economic shocks and public health protections in US metropolitan areas. *Am J Public Health*. 2015;105 Suppl 2:S280-7.

Equity in population health delivery systems

Delivery of recommended population health activities



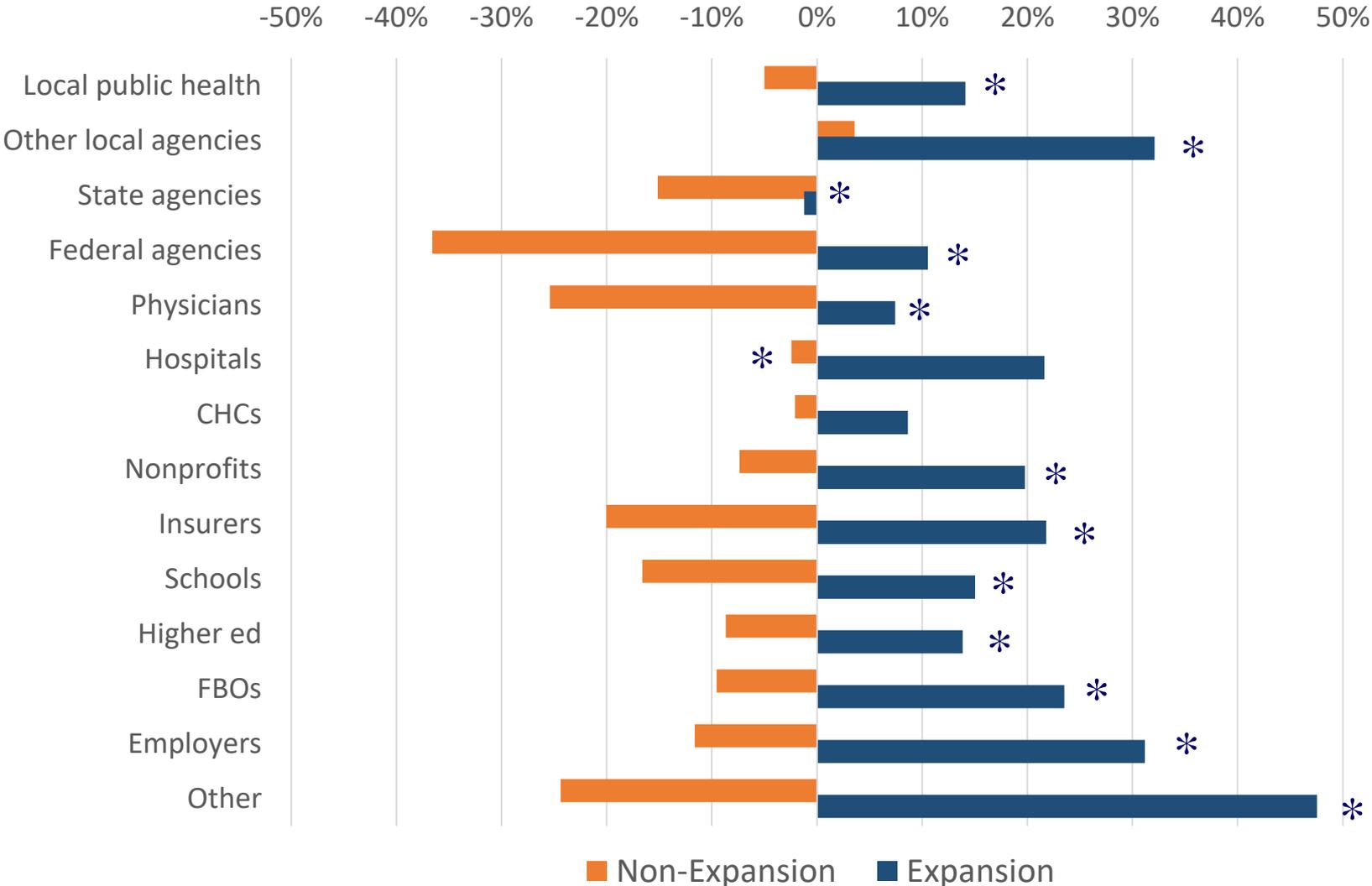
Mays GP, Hogg RA. Economic shocks and public health protections in US metropolitan areas. *Am J Public Health*. 2015;105 Suppl 2:S280-7.

Organizational contributions to population health activities, 1998-2014

% of Recommended Activities Implemented

<u>Type of Organization</u>	<u>1998</u>	<u>2014</u>	<u>Percent Change</u>
Local public health agencies	60.7%	67.5%	11.1%
Other local government agencies	31.8%	33.2%	4.4%
State public health agencies	46.0%	34.3%	-25.4%
Other state government agencies	17.2%	12.3%	-28.8%
Federal government agencies	7.0%	7.2%	3.7%
Hospitals	37.3%	46.6%	24.7%
Physician practices	20.2%	18.0%	-10.6%
Community health centers	12.4%	29.0%	134.6%
Health insurers	8.6%	10.6%	23.0%
Employers/businesses	16.9%	15.3%	-9.6%
Schools	30.7%	25.2%	-17.9%
Universities/colleges	15.6%	22.6%	44.7%
Faith-based organizations	19.2%	17.5%	-9.1%
Other nonprofit organizations	31.9%	32.5%	2.0%
Other	8.5%	5.2%	-38.4%

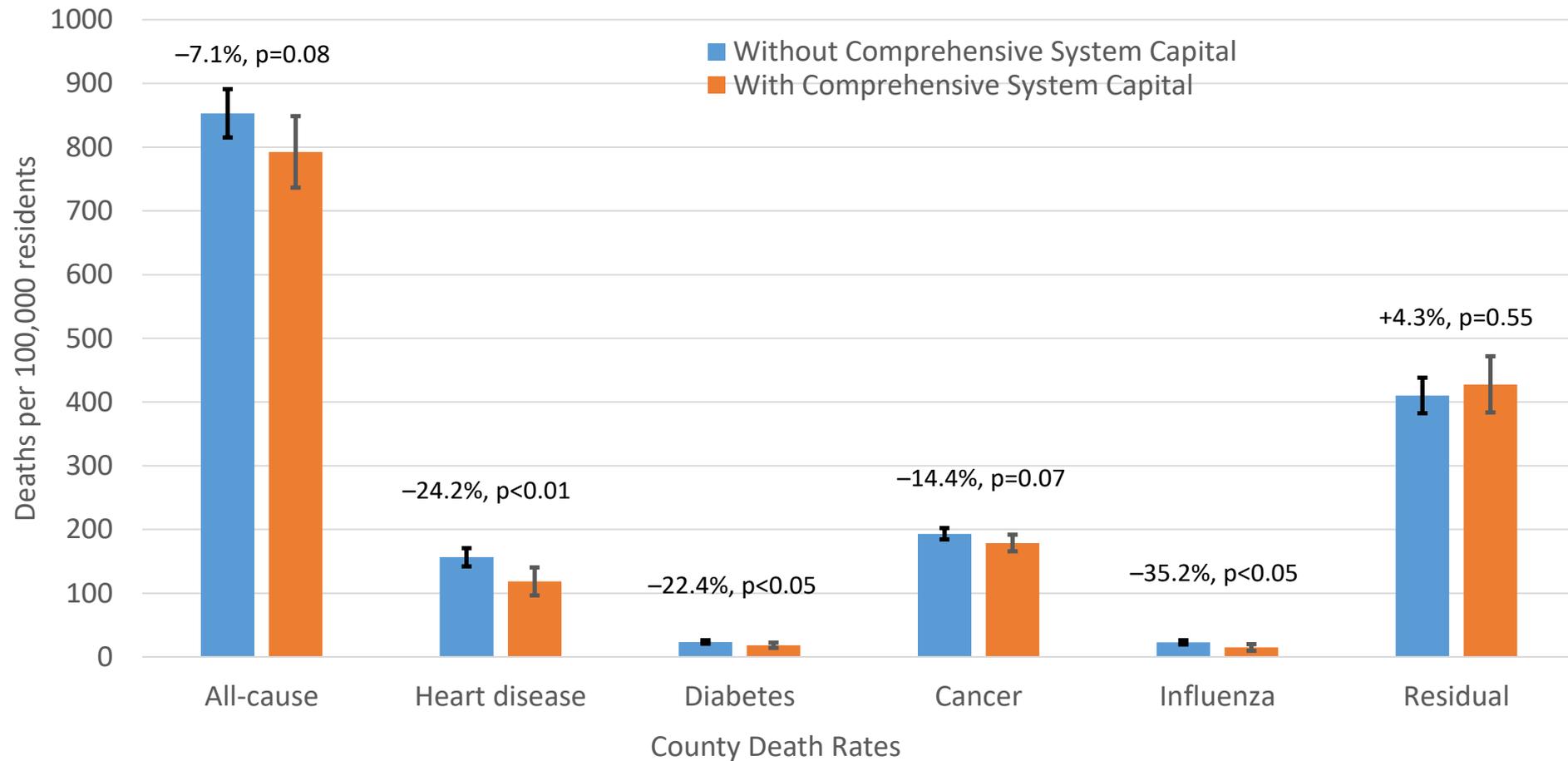
Changes in organizational centrality by ACA Medicaid expansion status, 2012-2014



*p<0.05

Health effects attributable to multi-sector work

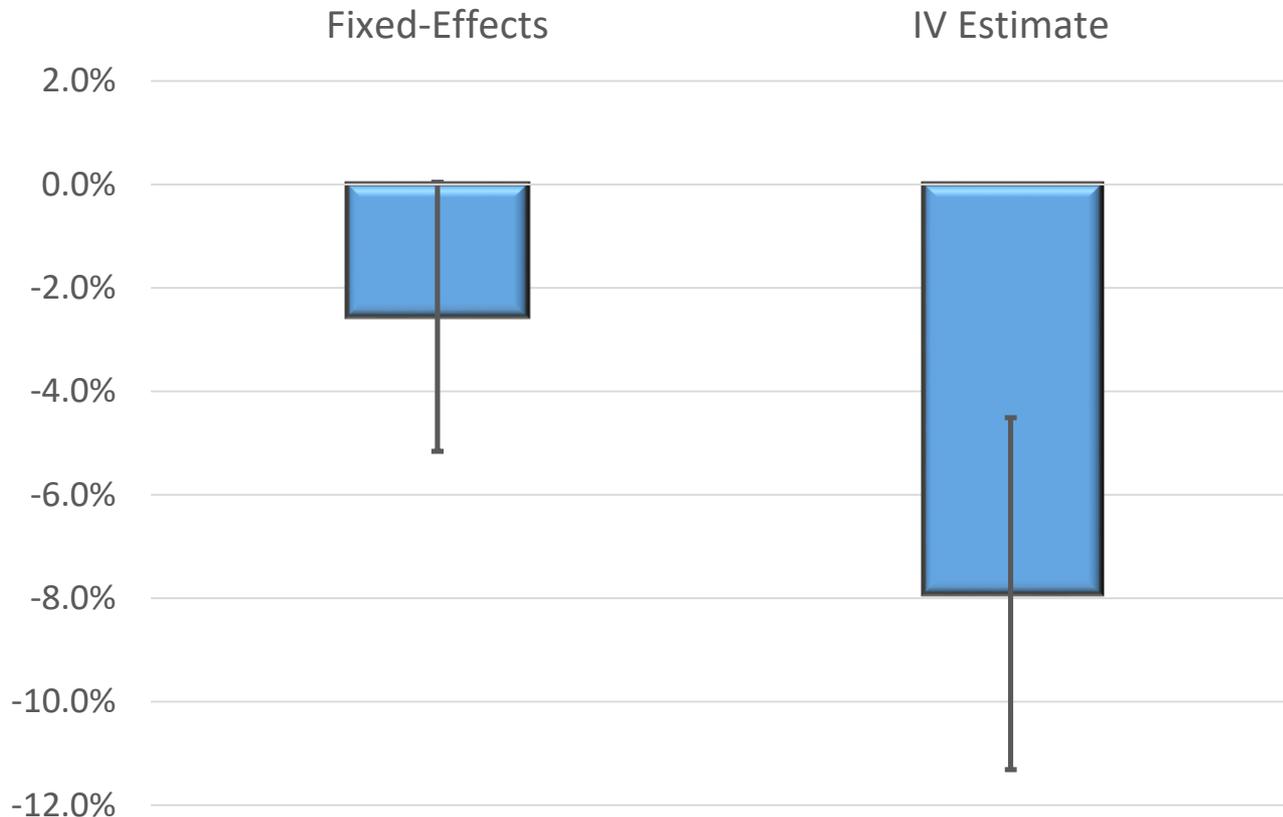
Impact of Comprehensive Systems on **Mortality**, 1998-2014



Fixed-effects instrumental variables estimates controlling for racial composition, unemployment, health insurance coverage, educational attainment, age composition, and state and year fixed effects. N=1019 community-years

Economic effects attributable to multi-sector work

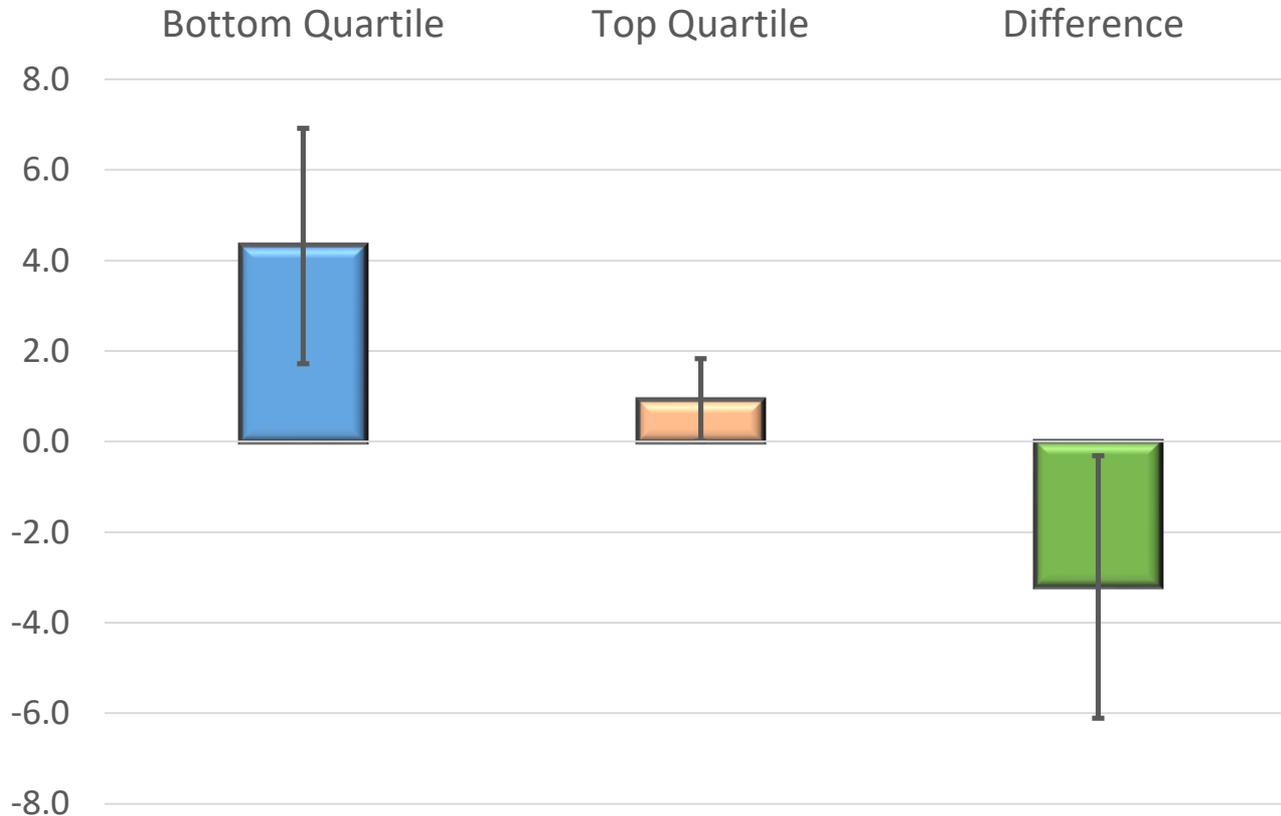
Impact of Comprehensive Systems on **Medical Spending** (Medicare) 1998-2014



Models also control for racial composition, unemployment, health insurance coverage, educational attainment, age composition, and state and year fixed effects. N=1019 community-years. Vertical lines are 95% confidence intervals

Economic effects attributable to multi-sector work

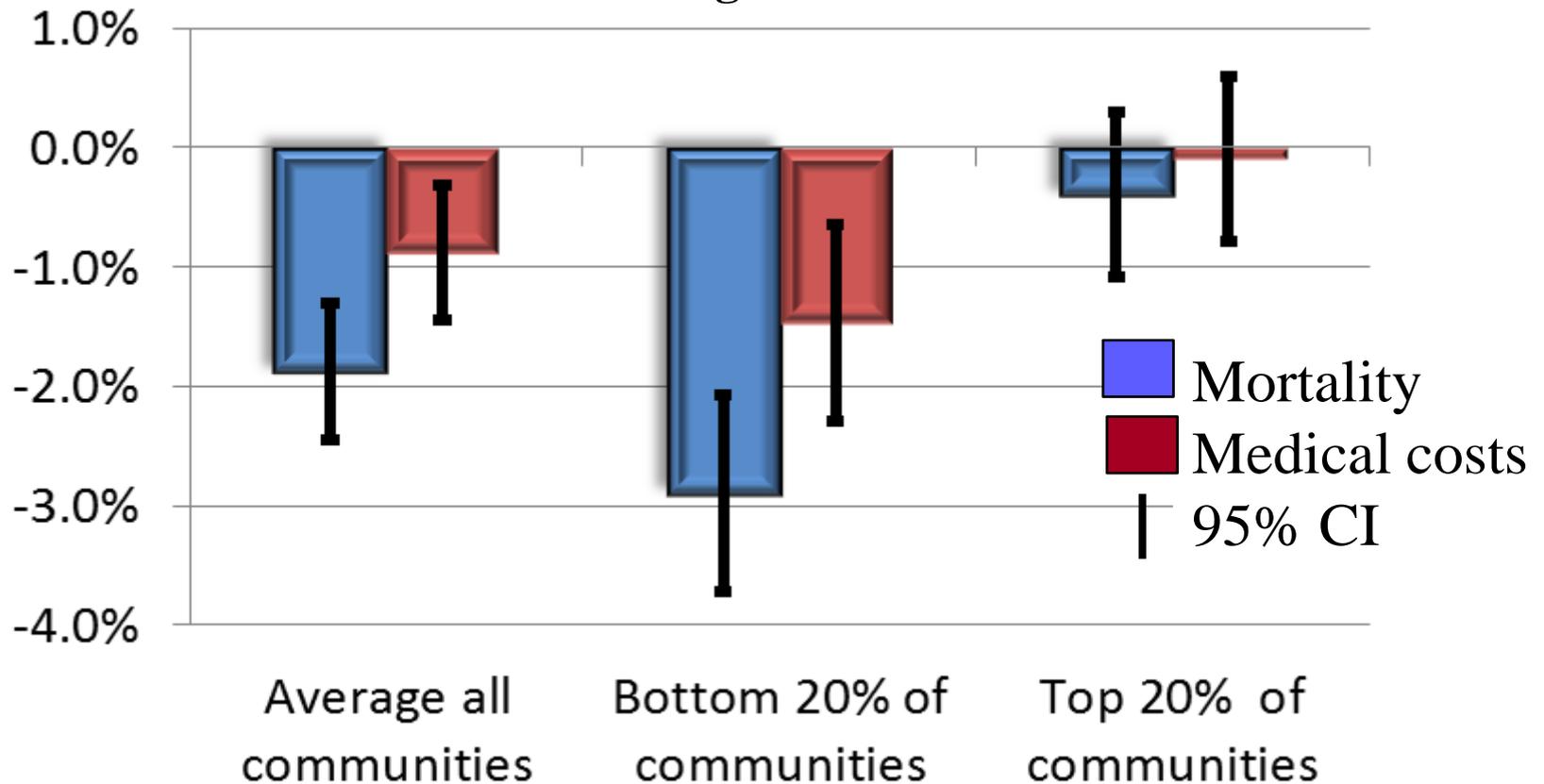
Impact of Comprehensive Systems on **Life Expectancy by Income** (Chetty), 2001-2014



Models also control for racial composition, unemployment, health insurance coverage, educational attainment, age composition, and state and year fixed effects. N=1019 community-years. Vertical lines are 95% confidence intervals

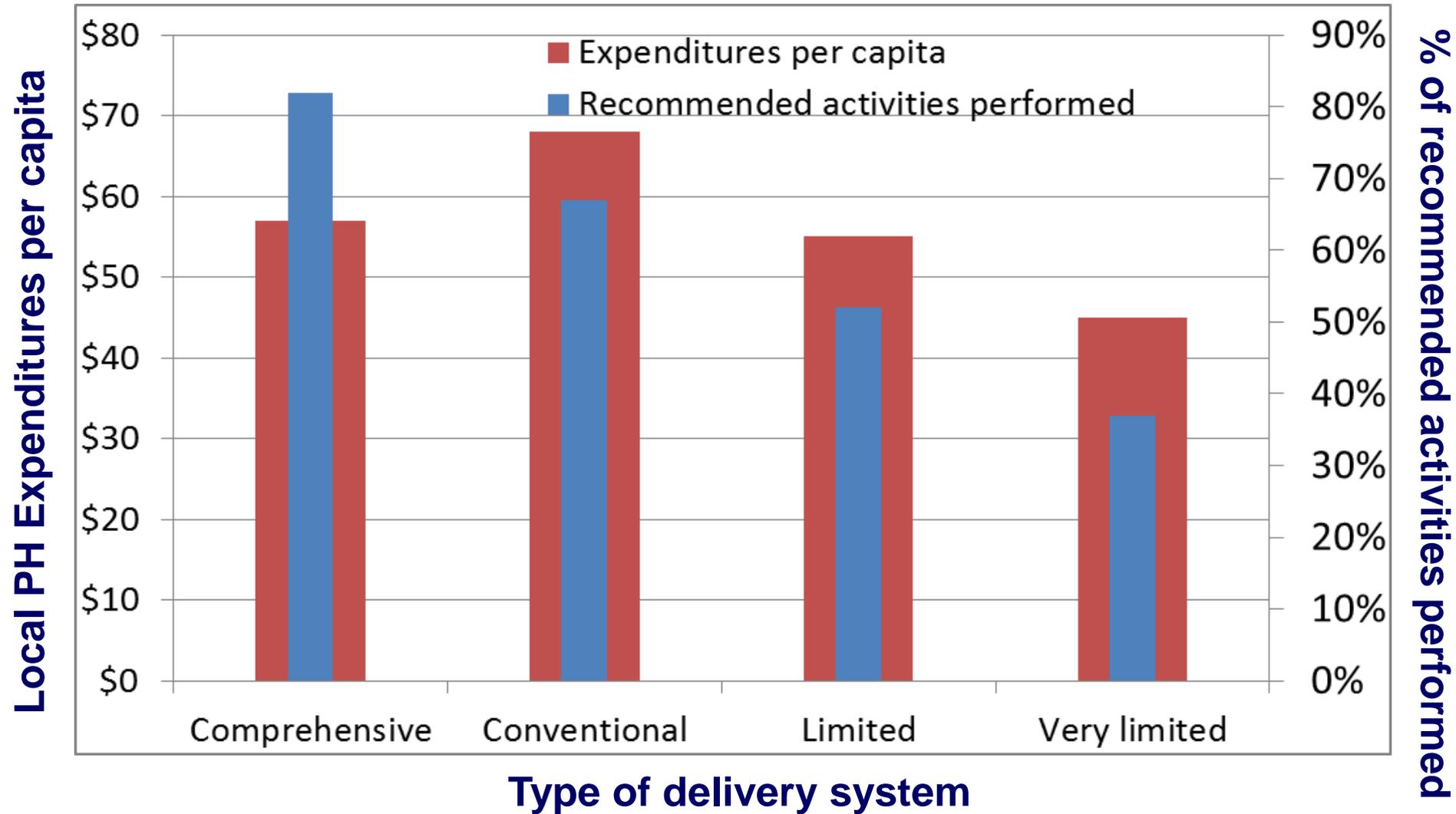
Making the case for equity: larger gains in low-resource communities

Effects of Comprehensive Population Health Systems in Low-Income vs. High-Income Communities



Log IV regression estimates controlling for community-level and state-level characteristics

Comprehensive systems do more with less



Getting to sustainable financing

Structural element	Function
1. Strong multi-sector governance model	Do I have a seat at the table?
2. Clear goals, activities, division of responsibility	What are we buying?
3. Clarity on implementation costs	What is the investment?
4. Credible estimates of health & economic outcomes	What are the returns?
5. Robust evaluation and monitoring systems	How will we know success?



Willingness to Pay

Financing sources & models

- Dedicated state and local government allocations (CO, OH, OR, WA)
- Medicaid administrative match/claiming (ME, AR, OR)
- Hospital community benefit allocations (MA, ME, MI)
- AHC/ACO shared savings models (WA, MN)
- Community health trusts (MA)
- Public/private joint ventures (KY, OH, NC)

Some Promising Examples

Hennepin Social ACO

- Partnership of county health department, community hospital, and FQHC
- Accepts full risk payment for all medical care, public health, and social service needs for Medicaid enrollees
- Fully integrated electronic health information exchange
- Heavy investment in care coordinators and community health workers
- Savings from avoided medical care reinvested in public health initiatives
 - Nutrition/food environment
 - Physical activity



Some Promising Examples

Arkansas Community Connector Program

- Use community health workers & public health infrastructure to identify people with unmet social support needs
- Connect people to home and community-based services & supports
- Link to hospitals and nursing homes for transition planning
- Use Medicaid and SIM financing, savings reinvestment
- ROI \$2.92



Source: Felix, Mays et al. *Health Affairs* 2011

www.visionproject.org

Some Promising Examples

Massachusetts Prevention & Wellness Trust Fund

- \$60 million invested from nonprofit insurers and hospital systems
- Funds community coalitions of health systems, municipalities, businesses and schools
- Invests in community-wide, evidence-based prevention strategies with a focus on reducing health disparities
- Savings from avoided medical care are expected to be reinvested in the Trust Fund activities



New incentives & infrastructure are in play



Conclusions: What we know and still need to learn

- Large potential benefits of system integration
- Inequities in integration are real & problematic
- Integration requires support
 - Infrastructure
 - Institutions
 - Incentives
- Sustainability and resiliency are not automatic

Finding the connections



- Act on aligned incentives
- Exploit the disruptive policy environment
- Innovate, prototype, study – then scale
- Pay careful attention to shared governance, decision-making, and financing structures
- Demonstrate value and accountability to the public

For More Information

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Supported by The Robert Wood Johnson Foundation

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